

Preliminary analysis of growth and yield parameters in rice cultivars when exposed to different transplanting dates

ABSTRACT

The growing seasons usually depends on the seedling transplanting dates. Proper sowing time is good cultural practice to complete growing phase successfully. This research was conducted on the basis of randomized complete block design with split plot arrangement (three replicates) during the 2012 cropping season at Rice Research Institute of Iran, Mazandaran. Three seedling transplanting dates (1st May, 21st May and 10th June) and six rice cultivars (‘Neda’, ‘Hovaze’, ‘Hashemi’, ‘Domsiah’, ‘Tarom’ and ‘Fajr’) were studied. Among the studied cultivars, ‘Neda’ transplanted on 21st May, recorded higher effective tillers, fertile spikelets, bolder grains with greater 1000-grain weight and grain yield. However, panicle exertion, 1000-grain weight and fertile spikelets were equally greater with non-significant differences in 1st and 21st May except for plant height which declined in the early and mid transplanting. The suitability of early and mid transplanting was mainly due to favourable weather temperature during the growing phase. Correlation coefficient analysis showed that a unit increase in effective tillers, total number of spikelets and 1000-grain weight correspondingly increased grain yield by 236.6, 39.4 and 72.1 kg/ha, respectively. Irrespective of cultivars type, the late transplanting of 10th June increased plant height while it decreased important yield components. Observed trends associated with growth and yield features were found to be similar in all the studied cultivars. The study concludes that rice crop may be sown on early and mid transplanting dates (1st or 21st May) for achieving better growth and grain yield.

Keyword: Growth; Rice; Transplanting date; Yield components